recognized in physics and chemistry, comes from the eminent biologist, Prof. R. S. Liilie. He argues that, beside the commonly recognized properties of matter, which conform to uniform rules and yield by their collective action the predictable mechanical phenomena, all atoms, or some atoms (which, we are told, are reservoirs of great quantities of energy), have the possibility of internal. or intra-atomic change which is independent (or nearly so) of all outside influences and is exemplified in the occasional shooting out of an electron by a radium atom. The evidence, he says, ' indicates that each atom possesses also a certain individual or inner determination or activity which is not (or only slightly) influenceable from outside'. . . . What has been called a contingent or casual or a logical element thus enters as a factor or ingredient in the basic natural entities'. Further :

[4] That a large part (at the very least) of atomic activity is of individual or internally determined character is indicated physically in a variety of ways. For example: we do not find that we can control experimentally (i. e., by influences exerted from without) the detailed behaviour of single atoms or electrons, e. g., the time or direction of a quantum leap.' He suggests that ' the essential peculiarity of vital organization (as contrasted with the non-living part of nature) is that these spontaneous or originative [intra-atomic] factors are in living organisms enabled in some w[r]ay to assert themselves in a unified and effective manner. An internal or

individual de-
termination, as distinguished from an external or mass
determination, may thus under certain circumstances
assume the upper hand, and direct the course of vital
events in a manner which is largely independent of ex-
ternal conditions. The spontaneity or innate variability